GEOMETRID NOTES

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Chlorosea nevadaria Packard

During the last week of July 1949, which the author spent in hospital at Enterprise, Oregon with his leg in a cast, Mrs. Sperry took, at light, at the Lazy T Ranch on the north slope of Chief Joseph Mt., six specimens of this rarity, all females, in excellent, fresh condition. Examination of these adds another character to the *nevadaria* description, overlooked in the examination of worn specimens. Dorsally on the second and third abdominal segments appear small whitish, wedge shaped, triangular spots pointing toward the thorax with the faintest or orange-yellow tinges about the apices. This is scarcely discernible except under magnification.

The genus *Chlorochlamys* Hulst is badly in need of revision, but it will be necessary to examine types of the species of Prout, Walker and Swett before this can be adequately done. However, thanks to the kindness and careful comparisons of and by Mr. D. S. Fletcher of the British Museum staff and Dr. Frederick Rindge of the American Museum of Natural History the author has been enabled to do a little of the preliminary work at this time. It seems especially wise to clarify the status of the species forming the *volantaria-masonaria-martinaria* group and to attach a name to the common Southwestern desert species, heretofore misidentified as *chloroleucaria* Gn. or *volantaria* Pears, by several entomologists, including the author.

The first mentioned group is characterized by larger size (20 to 24 mm.) squamous vestiture with a tendency to mottling of the dull olive-green ground color of the wings and waved t.a. and t.p. lines on the primaries.

Viridipallens Hulst probably heads the group and it is more than probable as Prout suggests (Seitz, VIII, 62) that *volantaria* Pears. is synonymous.

Dr. Rindge, having been allowed at long last to make a slide of the Colorado type, writes that all characters seem to be identical with those of a paratype male of *volantaria* with the exception that the ædeagus of *volantaria* appears a little longer and a little thinner than that of *viridipallens*, the specimens being of equal size. The associated female is from Arizona and is probably better associated with *volantaria*.

Volantaria Pears. and *martinaria* Sperry are very close insofar as their maculation is concerned, *volantaria* is larger and the palpi especially in the female, are much longer than in *martinaria.* Dr. Rindge writes that, if he has the sexes properly associated, *volantaria* has a fairly large plate in the female genitalia, the plate in *martinaria* is smaller with two smaller sclerotized pieces, posterior and lateral. *Masonaria* Schaus from Mexico may be separated from the other two by its larger size and the presence of dorsal abdominal spots, which are lacking in the other species. In the light of this information, the Allotype of the author's species *martinaria* must be placed under *volantaria* Pears. in the Sperry collection and a new Allotype (Madera Canyon, Santa Rita Mts., Ariz., July 31, 1947, J. A. Comstock and Lloyd Martin, Coll.) designated.

In the Sperry collection, for the time being, the group will be arranged as follows, *volantaria* Pears. being still held as a separate species pending receipt of more Colorado material.

viridipallens Hulst.....Colorado
volantaria Pears. ....S.E. Arizona
martinaria Sperry..... Southern Arizona
masonaria Schaus.....Mexico
form *hyperella* Prout...Costa Rica

This leaves our common Southern California desert *Chlorochlamys* without a name and to be quite certain that this was undescribed, the author took the liberty of sending a good series to Mr. D. S. Fletcher at the British Museum and Mr. Fletcher kindly checked the genitalia in his usual careful and competent manner against *chloroleucaria* Gn., the type of its synonym *rectilinea* Zeller, the type of *densaria* Wlk. and one of its synonyms *deprivata* Wlk. a male and female type of *triangularis* Prout and the female type of *curvifera* Prout and still the California species remains unmatched and nearer *triangularis* Prout than anything else. On the strength of Mr. Fletcher's careful comparisons and my own checks against all other North American species in the Sperry collection, I make bold to describe this *Chlorochlamys* species from the Southwest giving it the name suggested by Mrs. Sperry before her death this past summer.

CHLOROCHLAMYS HESPERIA sp. n.

♂ & ♀ Palpi rosy brown above, ochreous beneath, in the ♂ short, scarcely exceeding the front, in the ♀ long, exceeding the front by more than the diameter of the eye. Front garnet-brown, vertex warm-buff as is also the antennal shaft. In the ♂ the antennal pectinations, especially proximal, flecked with dark brown. Legs rose-brown above, buff beneath. Thorax, abdomen above and both wings chromium-green in fresh specimens, fading through yellowish-glaucous to pale olive-buff. The upper side of the distal half of the scale is laved with the darker green, the proximal half being almost without a green tint and the whole underside of the scale being a glistening gray-green, the vestiture is rough and this accounts for an occasional specimen with darker median area. The costa of the primaries is broadly warm-buff with a rose-brown tinting on the extreme edge. There is a narrow dorsal band of warm-buff extending the entire length of the abdomen and the underside and the lateral tufting of the ♂ and most of the last four ♀ abdominal segments, both above and beneath, are light to warm-buff, as is also the maculation of the wings. All are Ridgway colors.

Forewing: T.a. line from costa at 1/3 out, perpendicular to costa to cell, curving in the cell until perpendicular to inner margin at 2/5 out. The line is 1/4 mm. wide and distinct, slightly larger at costa; t.p. line from costa at 2/3 curving inward to vein 5 thence nearly straight to inner margin at 4/5 out from base, t.p. line slightly wider than t.a. and the triangular inception at costa is over 1/2 mm. wide. There is a narrow, light buff, terminal line at the base of fringe and the fringe is light green proximally and light buff distally. There is no discal dot.

Hindwing: T.a. line absent; t.p. line crosses the wing in a flat curve from costa to inner margin 2/3 out from base. No discal dot; fringes as in primaries.

Beneath, both wings a shining, light grey-green. The basal area of primaries somewhat darker. The costal warm-buff band is rosier at the base than above, t.p. lines of primaries and secondaries showing dimly through as does the very narrow, terminal, light buff line. Fringes as above; no discal dots on either wing. Expanse ♂ 13-16 mm.; ♀ 15-18 mm.

Holotype ♂ Borrego, California, Feb. 27, 1950, Grace H. & John L. Sperry, coll. and in the collection of Grace H. & John L. Sperry.

Allotype ♀ Tub Canyon, Borrego, California, April 7, 1949, same collectors and in the Sperry collection.

Paratypes: It seems best to designate a rather large number of these and to distribute these widely. They comprise 119 ♂ 16 ♀ from Borrego or Tub Canyon, Borrego, California (the localities are 4 miles apart) taken by Grace H. & John L. Sperry or by Noél Crickmer mostly in March and April but with one October and several November records otherwise from Feb. 26 to June 30, 1945 to 1950. Also specimens from nearby parts of the Colorado and Mojave deserts of California taken by Grace H. & John L. Sperry as follows: 7 ♂ Split Rock Tank, May 19 to 31, 1938; 3 ♂, 1 ♀, 12 mi. south of Cave Spr. May 3, 1939; 1 ♂ Rock Spr., May 13, 1937; 3 ♂ Split Mt. Canyon, Apr. 12, 1939;

7 ♂ 5 ♀ Providence Mts., May 10, 11, 1936; 1 ♂ 1 ♀ Morongo Valley, May 13, 1937;1 ♂ Ivanpah Mts., July 27, 1935; 1 ♂ 1 ♀ Mexican Wells, July 7, 1937; 1 ♀ Indio, Mar. 25, 1941; 1 ♀ Bullion Mts., Apr. 6, 1934, also 1 ♀ Hidden Valley, May 19, 1946; Melander and 2 ♀ Bouquet Canyon, Aug. 6, 1938, Westerland.

These will be distributed to the Los Angeles County Museum, California Academy of Science Museum, U. S. National Museum, British Museum, French National Museum, Canadian National Museum, American Museum of Natural History, Museum of Comparative Zoology, Nova Scotia Museum of Science, and collections Crickmer, Bower, Buchholz and Sperry.

The ♂ genitalia are similar to the genitalia of *chloroleucaria* Gn. but the cluster of spines at the tip of the needle-like ædeagus are cone shaped and robust, whereas those of *chloroleucaria* are flat and appressed at the apex of the organ. In the ♀ *chloroleucaria* has a rather large, heavily sclerotized plate, in *hesperia* the plate is much smaller.

Since 1938 there has been in the Sperry collection a small series of an unknown *Chlorochlamys* from South Florida, it was one of those things one is always going to work up and never does, but receipt of a series of this same insect from my friend Mr. C. P. Kimball of Rochester, N. Y. taken by him in Sarasota County, Florida provided the necessary incentive and Mr. D. S. Fletcher kindly compared these with specimens in the British Museum and states it is *Chloropteryx paularia* Moeschler and that, as there is no apparent production of the wings at vein 6 of the forewings and vein 4 of the hindwings and as the genitalia are congeneric with *Chlorochlamys* it follows that *paularia* is, as Prout suggested (Seitz, VIII, 63) probably better placed in the genus *Chlorochlamys*. The author believes that this is a new record for this species in the United States and that it should be added to our check list.

Drepanulatrix ella Hulst

Receipt of a single ♂ specimen which is very probably this species from Mr. Edward C. Johnston of Seattle again stirs interest in this elusive insect. It was taken in Brooks Mem. Park, south of Yakima, Wash. on May 30. It is about the size of *bifilata* Hulst (30 mm.) and the ground color of the forewings is an orange buff rather heavily irrorate with brownish fuscous, the hind wings lighter. T.a. line from 1/4 out, narrow, distinct, perpendicular to costa to cell then curving smoothly to inner margin at 1/3; median line indicated, subparallel, at 1/3 on costa fading out in cell. T.p. line heaviest of the lines, from costa at 2/3 smoothly curving across the cell then nearly straight to inner margin at 2/3. No lines on secondaries. Distinct discal dots on all wings outside the median line of primaries. Terminal black dots on veins, both wings.

In the ♂ genitalia the valvæ are narrower and less hairy than in *bifilata* and bear small hairy pads at the base of the costa, the uncas is also narrower and the two spines on the vesica have rounded spots at their tips. In the Sperry collection *ella* Hulst is now carried as a good species as are also incidentally *verdiaria* Grossb., *rindgearia* Sperry, and *ruthiaria* Sperry, as the author does not consider that sufficient evidence has as yet been presented to warrant the placing of these in synonymy or as forms of another species.

SNOWIA WALTONARIA Sperry

Among many interesting species received by the author in the Spring of 1950 through the kindness of Mr. Chester A. Thomas of Zion and Bryce National Parks there was a single ♀ of *Snowia montanaria* Neum. As the author's series of this species was made up entirely of males this specimen allowed the making of a slide of the female genitalia and the definite placing of *Azelina waltonaria Sperry* (Bull. So. Calif. Acad. Sci. XLVIII, 10, 1949) in the genus *Snowia* Neumoegen.